

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 251.

of writing Report 19 When handed in at Local Office 19 Port of NOTTINGHAM. Received at London Office 19 DEC 1947

Survey held at Lincoln Date, First Survey 1947 Last Survey 1947

on the Single Screw vessel DIESEL ELECTRIC VESSEL AURIS Number of Visits 1

at Newcastle. By whom built R. & W. Hawthorn, Leslie & Co. Yard No. 686 When built 1948

by THE ANGLO SAXON PETROLEUM CO. LTD. Port belonging to LONDON.

Engines made at Lincoln, By whom made Ruston & Hornsby Ltd., Contract No. 460225. When made 1947

Generators made at Rigby. By whom made British Thomson-Houston Co. Contract No. ✓ When made ✓

of Sets 1 Engine Brake Horse Power 48 M.N. as per Rule 12 Ltd. ✓ Total Capacity of Generators 30 Kilowatts.

Set intended for essential services ✓

OIL ENGINES, &c.—Type of Engines 4VPHZ. Eng. No. 250014. 2 or 4 stroke cycle 4 Single or double acting SA

Maximum pressure in cylinders 1000 lbs. Diameter of cylinders 5.3/8" Length of stroke 8" No. of cylinders 4 No. of cranks 4

Mean indicated pressure 109 lbs. Firing order in cylinders 1-3-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6.25/32"

Is there a bearing between each crank Yes Amount of inertia of flywheel 2240 lb. ft. 2 Revolutions per minute 675

Flywheel dia. 2'-8" Weight 510 lbs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule Crank pin dia. 3 1/2" Crank Webs Mid. length breadth 5 3/8" Thickness parallel to axis ✓

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m² or Kg.-cm.²) ✓

Are means provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Kind of damper if fitted ✓

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. One Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size one, 376 gals. per hour. Engine driven.

Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

AIR RECEIVERS:—Have they been made under Survey ✓ State No. of Report or Certificate ✓

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ✓

Can the internal surfaces of the receivers be examined ✓ What means are provided for cleaning their inner surfaces ✓

Is there a drain arrangement fitted at the lowest part of each receiver ✓

High Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓

Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Starting Air Receivers, No. One (See Diesel Engines) Total cubic capacity 104 cu ft Internal diameter 4'-0 1/2" thickness 7/8"

Seamless, lap welded or riveted longitudinal joint Riveted Material Mild Steel Range of tensile strength 26/32 Tons Working pressure by Rules 460 lbs.

ELECTRIC GENERATORS:—Type No. 474592/1/01.

Pressure of supply 110 volts. Full Load Current 273 Amperes. Direct or Alternating Current D.C.

If alternating current system, state the periodicity Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off Yes Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

If the generators are under 100 kw. full load rating, have the makers supplied certificates of test Yes and do the results comply with the requirements Yes

If the generators are 100 kw. or over have they been built and tested under survey ✓

Details of driven machinery other than generator Chain drive. Hamworthy circulating pump No. 69459.

PLANS.—Are approved plans forwarded herewith for Shafting Standard Approved. Receivers ✓ Separate Tanks ✓

Have Torsional Vibration characteristics if applicable been approved Not applicable. Armature shaft Drawing No. ✓

SPARE GEAR To rule requirements.

The generator has been efficiently installed on board, examined under working conditions & is in good working order.

C. A. Mc. Newcastle-on-Tyne
Ruston & Hornsby Limited,
 The foregoing is a correct description,
18/11/47 Manufacturer.
Oil & Gas Engines Dept.



Dates of Survey while building

During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 18.11.46. Covers 18.11.46. Pistons 18.11.46. Piston rods -

Connecting rods 18.11.46. Crank and Flywheel shafts 18.11.46. Intermediate shafts

Crank shaft Material S.M. Steel. Tensile strength
Elongation Identification Marks LL.966. RD.1837. T.D.S.

Flywheel shaft, Material - Identification Marks

Identification marks on Air-Receiver

Oil fuel tank. 60 gals. capacity., tested 10 lbs. 9-4-47.

Is this machinery duplicate of a previous case Yes If so, state name of vessel Standard Type.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This engine has been built under Special Survey, in accordance with Approved Plans and Regulations of Society, material and workmanship being good.

On completion the set was tried in the Shops under working conditions and found satisfactory.

The set has been forwarded to Newcastle for installation on board the vessel.

20.8.47.-T. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below this space for Committee Minute.)

The amount of Fee ... £ 4 : 0 : 0 When applied for 17-12- 19 47.
Travelling Expenses (if any) £ : : When received 19

Committee's Minute

FRI. 5 NOV 1946

Assigned

LR-FAR-1815-154

f.c. machy r/l

Surveyor to Lloyd's Register of Shipping.



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